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EXAMINER

TRUJILLO, JAMES K

ART UNIT PAPER NUMBER

2116

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/809,106

Applicant(s)

YAMADA ET AL.

Examiner

James K. Trujillo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The office acknowledges the receipt of the following and placed of record in the file:
Request for Continued Examination (RCE) with amendment dated 3/03/05.
2. Claims 1-17 are presented for examination.

Claim Objections

3. Claims 10-17 are objected to because of the following informalities: claims 10 recites “to the components which are not monitored among said plurality of components” on lines 6-7, should be changed “to components which are not monitored among said plurality of components” lacks proper antecedent basis. Appropriate correction is required.

Drawings

4. Figures 6 and 7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
5. The drawings are objected to because it is believed that one of the elements in figure 4 that is labeled “24” should be changed to “25” and its legend should have “HDD” changed to “CPU” as per paragraph [0044] and [0048] for clarity. Also, in figure 5, in block (B4) “CPU”

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should be changed to "HDD" as per paragraph [0050] for clarity. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunstan et al., U.S. Patent 5,964,879 in view of Hetzler, U.S. Patent 5,954,820.

8. Regarding claim 1, Dunstan teaches an information device having means for supplying power to a plurality of its components, the information device (computer systems 10 and 50 figures 1 and 4) characterized by comprising:

- a. means for monitoring components from predetermined single one or a number of said components, and for detecting peak-power generating condition and peak- power terminating condition for the monitored components (storage for a power characterization table for the devices, power coordinator and power budgeter, col. 4, lines 19-25, col. 6, lines 35-47);
- b. power-mode changing means for switching mode of power, predetermined single one or a number of said components, from a normal-power mode to a power saving mode (standby mode) according to detected information from said monitoring means on said peak-power generating condition (required power not available), and for switching the power mode from said power-saving mode to said normal-power mode according to detected information from said access monitoring means on said peak-power terminating condition (the power budgeter determines a peak-power condition “lack of available power” and switching one of the other components “other devices” into an off mode or a standby mode, col. 9, lines 30-41). Dunstan implicitly teaches wherein switching the power mode from said power-savings mode to said normal-power mode on said peak-power terminating condition (col. 2, lines 5-9, col. 8, line 64 through col. 9 line 9, figure 7). Specifically, Dunstan further teaches that peak-power conditions are temporary, such a starting up a disk. One of ordinary skill would understand that the components that are placed in a power-saving mode would be placed back in the normal-power mode when

the peak-power generation condition is terminated in order to provide any functionality lost during the peak-power generation condition.

Dunstan does not disclose wherein the monitoring means *is an access monitoring means for monitoring IO packets* from said predetermined single one or a number of said components [emphasis added].

Hetzler teaches an access monitoring means for monitoring IO packets (accesses are interpreted include IO packets and detection of accesses inherently requires an access monitoring means, col. 2, line 63 through col. 3, line 11, col. 8 lines 1-29 and col. 8, line 52 through col. 9, line 19). The access monitoring means of Hetzler provide the advantage of improved performance because the user will not see the latency and improved energy savings because power modes can be entered with shorter delays (col. 8, lines 58-64).

It would have been obvious to one of ordinary skill in the art, having the teachings of Dunstan and Hetzler before them at the time the invention was made, to modify the monitoring means of Dunstan by using the access monitoring means as taught by Hetzler in order to obtain an access monitoring means to detect peak-power generating and terminating conditions. In using the teaching of Hetzler in Dunstan, the power changing would be applied to components (such as an LCD display), which are not monitored. Specifically, Dunstan suggests wherein a display should have its backlight reduced rather than be turned off during a disk drive operation to improve performance (col. 2, lines 23-35 and col. 3, lines 52-58).

One of ordinary skill in the art would have been motivated to make the modification in order to achieve the advantages of improved performance and improved energy savings in view of the teachings of Hetzler.

9. Regarding claim 2, Dunstan together with Hetzler taught the information device according to claim 1 as described above. Hetzler further teaches wherein said access monitoring means is configured for detecting issuance of read/write request IO packet (SEEK/READ power mode and IDLE power modes, col. 6, lines 17-40 and col. 8 lines 30-51) indicating occurrence of spin-up in the information storage device as the peak-power generation condition and detecting issuance of read/write end status as the peak-power termination condition (IDLE power modes).

10. Regarding claim 3, Dunstan together with Hetzler taught the information device according to claim 1. Dunstan further teaches wherein at least one of said monitor components is an information storage device, and the other components, are a processor and a liquid crystal panel (display subsystem 58 which inherently would include a processors such as a display controller, col. 3, lines 52-58) having a backlight (backlight), said power-mode changing means is configured for switching said processor and said liquid crystal panel from the normal-power mode to the power-saving mode, according to detection of the peak-power generating condition in said information storage device (changing the backlight intensity, col. 2, lines 23-35, col. 3, lines 52-58 and col. 9, lines 30-41).

Dunstan further teaches, implicitly, switching said processor and said liquid crystal panel from the power saving mode to the normal-power mode according to detection, of the peak-power terminating conditions. Specifically, Dunstan teaches that peak-power conditions are temporary, such as starting up a disk. One of ordinary skill would understand that the

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components that are placed in a power-saving mode would be placed back in the normal-power mode when the peak-power generation condition is terminated in order to provide any functionality lost during the peak-power generation condition.

Hetzler teaches that the detection would be by access monitoring means (col. 8, lines 52-64).

11. Regarding claim 4, Dunstan together with Hetzler taught the information device according to claim 1, as described above. Dunstan further teaches wherein at least one of said monitored components is a processor (controller inherently in disk subsystems 64 and 66) characterized in that the monitoring means is configured for detecting as the peak-power generating condition a rate surpassing a set value (power for requesting device is not available, col. 9, lines 30-41) and detecting as the peak-power terminating condition a rate dropping below a set value (implicitly, after power is available).

Hetzler teaches wherein the access monitoring means are configured for finding use rate (access frequencies) for the processor (wherein the processor is IDE controller 6, which controls data transfer for a disk drive, col. 4, lines 42-44 and col. 8, lines 30-64).

12. Regarding claim 5-7, Dunstan together with Hetzler taught the claimed information device. Therefore together they also teach the claimed method for using the information device.

13. Regarding claim 8-9, Dunstan together with Hetzler taught the claimed information device. Therefore together they also teach the claimed recording medium for storing the claimed program.

14. Regarding claim 10, Dunstan teaches a information device having means for supplying power to a plurality of its components, the information device characterized by comprising:

- a. means for monitoring components which are monitored among said plurality of components, and for detecting peak-power generating condition and peak- power terminating condition for the monitored components (storage for a power characterization table for the devices, power coordinator and power budgeter, col. 4, lines 19-25, col. 6, lines 35-47);
- b. power-mode changing means for switching mode of power, to the components among said plurality of components, from a normal-power mode to a power saving mode (standby mode) according to detected information from said monitoring means on said peak-power generating condition (required power not available), and for switching the power mode from said power-saving mode to said normal-power mode according to detected information from said access monitoring means on said peak-power terminating condition (the power budgeter determines a peak-power condition “lack of available power” and switching one of the other components “other devices” into an off mode or a standby mode, col. 9, lines 30-41). Dunstan implicitly teaches wherein switching the power mode from said power-savings mode to said normal-power mode on said peak-power terminating condition (col. 2, lines 5-9, col. 8, line 64 through col. 9 line 9, figure 7). Specifically, Dunstan further teaches that peak-power conditions are temporary, such a starting up a disk. One of ordinary skill would understand that the components that are placed in a power-saving mode would be placed back in the normal-power mode when the peak-power generation condition is terminated in order to provide any functionality lost during the peak-power generation condition.

Dunstan does not disclose wherein the monitoring means *is an access monitoring means* and wherein the components to which power changing is applied are *components which are not monitored* among said plurality of components [emphasis added].

Hetzler teaches an access monitoring means for monitoring information on access to components (detection of accesses inherently requires an access monitoring means, col. 2, line 63 through col. 3, line 11, col. 8 lines 1-29 and col. 8, line 52 through col. 9, line 19). Hetzler further teaches that some components (LCD display) cannot have their accesses monitored because of difficulty in such type of monitoring. The access monitoring means of Hetzler provide the advantage of improved performance because the user will not see the latency and improved energy savings (col. 8, lines 58-64).

It would have been obvious to one of ordinary skill in the art, having the teachings of Dunstan and Hetzler before them at the time the invention was made, to modify the monitoring means of Dunstan by using the access monitoring means as taught by Hetzler in order to obtain an access monitoring means to detect peak-power generating and terminating conditions. In using the teaching of Hetzler in Dunstan, the power changing would be applied to components (such as an LCD display), which are not monitored. Specifically, Dunstan suggests wherein a display should have its backlight reduced rather than be turned off during a disk drive operation to improve performance (col. 2, lines 23-35 and col. 3, lines 52-58).

One of ordinary skill in the art would have been motivated to make the modification in order to achieve the advantages of improved performance and improved energy savings in view of the teachings of Hetzler.

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15. Regarding claim 11, Dunstan together with Hetzler taught the information device according to claim 10, as described above. Hetzler further teaches wherein said access monitoring means is configured for detecting issuance of read/write status (SEEK/READ power mode and IDLE power modes, col. 6, lines 17-40 and col. 8 lines 30-51) indicating occurrence of spin-up in the information storage device as the peak-power generation condition and detecting issuance of read/write end status as the peak-power termination condition (IDLE power modes).

16. Regarding claim 12, Dunstan together with Hetzler taught the information device according to claim 10.

Dunstan further teaches wherein at least one of said monitor components is an information storage device, and the other components, are a processor and a liquid crystal panel (display subsystem 58 which inherently would include a processors such as a display controller, col. 3, lines 52-58) having a backlight (backlight), said power-mode changing means is configured for switching said processor and said liquid crystal panel from the normal-power mode to the power-saving mode, according to detection of the peak-power generating condition in said information storage device (changing the backlight intensity, col. 2, lines 23-35, col. 3, lines 52-58 and col. 9, lines 30-41).

Dunstan further teaches, implicitly, switching said processor and said liquid crystal panel from the power saving mode to the normal-power mode according to detection, of the peak-power terminating conditions. Specifically, Dunstan teaches that peak-power conditions are temporary, such as starting up a disk. One of ordinary skill would understand that the components that are placed in a power-saving mode would be placed back in the normal-power

mode when the peak-power generation condition is terminated in order to provide any functionality lost during the peak-power generation condition.

Hetzler teaches that the detection would be by access monitoring means (col. 8, lines 52-64).

17. Regarding claim 13, Dunstan together with Hetzler taught the information device according to claim 10, as described above. Dunstan further teaches wherein at least one of said monitored components is a processor (controller inherently in disk subsystems 64 and 66) characterized in that the monitoring means is configured for detecting as the peak-power generating condition a rate surpassing a set value (power for requesting device is not available, col. 9, lines 30-41) and detecting as the peak-power terminating condition a rate dropping below a set value (implicitly, after power is available).

Hetzler teaches wherein the access monitoring means are configured for finding use rate (access frequencies) for the processor (wherein the processor is IDE controller 6, which controls data transfer for a disk drive, col. 4, lines 42-44 and col. 8, lines 30-64).

18. Regarding claims 14-16, Dunstan together with Hetzler taught the claimed information device therefore together they also teach the claimed method.

19. Regarding claim 17, Dunstan together with Hetzler taught the claimed information device and method therefore together they also teach the claimed recording medium that stores a program of the method.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. No. 5,715,467 to Jirgal. This patent teaches monitoring activity to peripheral devices.

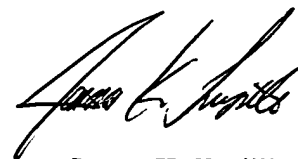
U.S. Pat. No. 5,546,591 to Wurzburg et al. This patent teaches system that provides power to peripheral components.

U.S. Pat. No. 5,483,656 to Oprescu et al. This patent teaches monitoring power to a plurality of devices in a system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James K. Trujillo whose telephone number is (571) 272-3677. The examiner can normally be reached on M-F (7:30 am - 5:00 pm) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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